

FLOORCO TRADING LTD.

TEST REPORT

SCOPE OF WORK FLOORCO ATWOOD & GL Engineered wood flooring

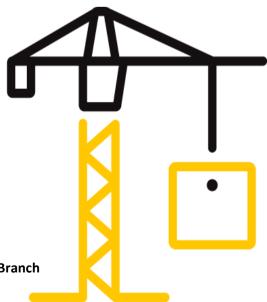
REPORT NUMBER 230822002SHF-010

TEST DATE(S) 2023-08-23 - 2023-10-08

ISSUE DATE 2023-11-01

PAGES 17

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



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Test Report

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Test Report

Issue Date:	2023-11-01	Intertek Report No.	230822002SHF-010
Applicant:	FLOORCO TRADING LTD.		
Address:	118 CARBINE ROAD, MT WELLINGTON		
Attn:	Terry SHI		
Test Type:	Performance test, samples provided by the	e applicant.	

Product Information

Product Name	FLOORCO ATWOOD & GL Engineered wood flooring		Brand	/
Sample	Good Condition		Sample Amount	48 pcs
Description		Good condition	Received Date	2023-08-23
Sample ID		Model	Specification	
S230822002SHF.026~032, 034~037		FLOORCO ATWOOD & GL	1900mm×190mm×14mm	

Test Methods And Standards

Test Standard	ASTM D2394-17(2022), Section 18, 36, ASTM D4060-19, ASTM D1308-20 7.2 spot test, covered, ASTM D1455-17(2023), ASTM D523-14(2018), ASTM D3359-22 Method B, ASTM C518-21, ASTM D4226-19 ^{e1} Procedure A, ISO 4918:2016/Amd.1:2018, EN ISO 16581:2019, With reference to ISO 1518-1:2019
Specification Standard	/
Test Conclusion	The samples were tested according to the above standards, and the results are shown in the following page.

Note:

1. This report does not involve sampling. The report only reflects conformity of the tested items of the samples provided by the testing applicant. Representativeness and authenticity of the submitted samples are responsibilities of the testing applicant.

Report Authorized rulaie Zhou Sally Xì 专用章 Name: Sally Xie Jackie Zhou Title: Reviewer Project Engineer



Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

Test Items, Method and Results:

Test Item: Falling-ball indentation Test Method: ASTM D2394-17(2022), Section 18 Test Condition: Steel ball diameter: 51 mm Steel ball mass: 535 g

Test Results:

Drop height, mm	Indentation on surface, mm	Observation
305	7.10	No crack
1800	/	No crack



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Test Items, Method and Results:

Test items	Test Methods	Test Results	
		MD dry condition:	
		Static coefficient mean:	0.62
		Sliding coefficient mean:	0.57
		MD wet condition:	
	ASTM D2394- 17(2022) Section 36	Static coefficient mean:	0.86
Coefficient of		Sliding coefficient mean:	0.50
Friction		AMD dry condition:	
		Static coefficient mean:	0.58
		Sliding coefficient mean:	0.55
		AMD wet condition:	
		Static coefficient mean:	0.92
		Sliding coefficient mean:	0.59

Note:

1. MD=Manufacturing direction; AMD=Across-manufacturing direction.



Issue Date:	2023-	11-01		Intertek Report No.	230822002SHF-010
Test Items, Met	hod and Resul	ts:			
Test Item:	Abrasion/We	ar resis	tance		
Test Method:	ASTM D4060	-19			
Conditioning:	Condition the	e test sp	pecimens at (23±2)°C an	d (50±5)% relative hum	idity for at least 24h
Test Condition:					
Rotation	frequency:	60	r/min		
Abrasive material:		S-33 a	brasive paper strips		
Load on each wheel:		1000	g		
Test revo	lutions:	100	r		

Test Result:

Parameter	Specimen 1	Specimen 2	Specimen 3
Mass/Weight loss, (mg)	103.9	72.3	80.8
Average value, (mg)		85.7	
Worn out	Yes	Yes	Yes

Note:

1. Abbreviation "r" = revolutions/cycles

2. Test conditions were specified by client.



Issue Date:	2023-11-01	Intertek Report No.	230822002SHF-010

Test Items, Method and Results:

Test Item:Chemical ResistanceTest Method:ASTM D1308-20 7.2 spot test, coveredConditioning:Condition at the temperature(23±2)°C and relative humidity (50±5)% for at least 1 weekTest Time:16h

Results:

Reagents	Test Results
Distilled Water(cold)	Not affected
Distilled Water(hot)	Not affected
50% Ethyl Alcohol	Not affected
Vinegar (3 % acetic acid)	Not affected
Alkali Solution(5% NaOH)	Not affected
Acid Solution(10% HCl)	Not affected
Soap Solution	Not affected
Detergent solution	Not affected
Fruit (Lemon)	Not affected
Vegetable oils	Not affected
Mustard	Not affected
Coffee (Nescafe)	Not affected
Tea (Lipton Green Tea)	Not affected



Issue Date:	2023-11-01	Intertek Report No.	230822002SHF-010
Test Items, Me	ethod and Results:		
Test Item: Test Method: Conditioning:	Gloss value ASTM D1455-17(2023), ASTM D523-14(2 Condition the specimen at (23 ± 2) °C an	,	f (50 ± 5) % for at least 24h
Test Condition:	85° geometry		

Results:

Parameter	Test Results
Mean gloss value	7.9



Issue Date:	2023-11-01	Intertek Report No.	230822002SHF-010
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Test Items, Method and Results:

Test Item:	Adhesion by tape test
Test Method:	ASTM D3359-22 Method B
Conditioning:	Condition the test specimens at (23 ± 2) °C and (50 ± 5) % relative humidity

Results:

Specimen	Rating
1	5B
2	5B
3	5B
Mean	5B

Rating	Description
5B	The edges of the cuts are completely smooth; none of the squares of the lattice is detached.
4B	Small flakes of the coating are detached at intersections; less than 5 % of the area is affected.
3В	Small flakes of the coating are detached along edges and at intersections of cuts. The area affected is 5 to 15 % of the lattice.
2B	The coating has flaked along the edges and on parts of the squares. The area affected is 15 to 35 % of the lattice.
18	The coating has flaked along the edges of cuts in large ribbons and whole squares have detached. The area affected is 35 to 65 % of the lattice.
ОВ	Flaking and detachment worse than Classification 1B.



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Test Items, Method and Results:

Test Item:Thermal conductivity and thermal resistanceTest Method:ASTM C518-21Conditioning:Condition the test specimen at (23±2)°C and (50±5)% relative humidity to constant mass

Test Result:

Sample	Thickness	Mean Temperature	Temperature Difference	Thermal Conductivity	Thermal Resistance
	(mm)	(°C)	(°C)	(W/m⋅K)	(m²·K)/W
1	14.36	23.91	20.52	0.101	0.142
2	14.37	23.84	20.49	0.102	0.140
3	14.24	23.88	20.44	0.099	0.144
Average	14.32	24	20	0.101	0.142



Issue Date:	2023-11-01	Intertek Report No.	230822002SHF-010
Test Items, Meth	od and Results:		
Test Item:	Impact Resistance		
Test Method:	ASTM D4226-19 ^{e1} Procedure A		
Conditioning:	Conditioned at (23±2)°C and (5	0±10)% relative humidity for no	ot less than 40 hours
Test Parameters:			
Impactor-hea	ad: H.25		
Average thickne	ss: 14mm		
Results:			
Test height: 5cm			
Test weight: 1.03k	g		
Test result: crack			



Issue Date:	2023-11-01			Intertek Report No.	230822002SHF-010	
Test Items, Method and Results:						
Test Item:	Castor chair test					
Test Method:	ISO 4918:2016/Amo	d.1:2018	8			
Conditioning:	Condition the test specimens at $(23 \pm 2)^\circ$ C and $(50 \pm 5)\%$ relative humidity for at least 24h					
Test Condition:	At a temperature range of 18°C to 25 °C					
Load mas	s:	90	kg			
Test casto	ors:	Туре	W			
Speed of rotating platform:		20	r/min			
Speed of castor assembly:		50	r/min			
Total test revolutions:		25000) r			
Mounting	g of the specimen:	Floati	ng installation w	ith click joints		

Test Result:

Type of damage	Observation (Yes/No)	Verdict
Delamination	No	
Opening of joints	No	Daca
Surface damage	No	Pass
Crazing	No	
Maximum opening	0.04mm	No requirement
Maximum height differences	0.20mm	Report the result

Test Photo:



After test



Issue Date:	2023-11-01

Intertek Report No. 230822002SHF-010

Test Items, Method and Results:

 Test Item:
 Effect of simulated movement of a furniture leg

 Test Method:
 EN ISO 16581:2019

 Conditioning:
 Condition the test specimens at $(23 \pm 2)^{\circ}$ C and (50 ± 5) % relative humidity for at least 5 days

 Test Condition:
 Type of Feet:
 Type 0

Applied Mass:	32	kg
Test Speed:	0.18	m/s

Test Result:

Path	Obser	vation	Verdict
Paln	Length direction/Longitudinal direction	Width direction/Transverse direction	veruict
1	No visible damage	No visible damage	
2	No visible damage	No visible damage	Pass
3	No visible damage	No visible damage	

Record the damage caused for each test path if any damage is observed

a) deterioration in the flatness of the surface;

b) damage which partially destroys the surface;

c) cuts of varying depths;

d) penetrating edges;

e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;

f) in the case of a treated or welded joint, its failure.



Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

Test Items, Method and Results:

Test Item:Effect of simulated movement of a furniture legTest Method:EN ISO 16581:2019Conditioning:Condition the test specimens at $(23 \pm 2)^{\circ}$ C and (50 ± 5) % relative humidity for at least 5 daysTest Condition:Type of Fet:Type of Fet:Type 2

Applied Mass:	100	kg
Test Speed:	0.18	m/s

Test Result:

Path	Observation			
Path	Length direction/Longitudinal direction	Width direction/Transverse direction	Verdict	
1	No visible damage	No visible damage		
2	No visible damage	No visible damage	Pass	
3	No visible damage	No visible damage		

Record the damage caused for each test path if any damage is observed

a) deterioration in the flatness of the surface;

b) damage which partially destroys the surface;

c) cuts of varying depths;

d) penetrating edges;

e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;

f) in the case of a treated or welded joint, its failure.



Issue Date:	2023-11-01
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Test Items, Method and Results:

Test Item:	Effect of simulated movement of a furniture leg		
Test Method:	EN ISO 16	581:20	19
Conditioning:	Condition the test specimens at (23 \pm 2)°C and (50 \pm 5)% relative humidity for at least 5 days		
Test Condition:			
Type of Fe	eet:	Туре	3
Applied N	lass:	70	kg

Test Result:

Test Speed:

Path	Observation			
Path	Length direction/Longitudinal direction	Width direction/Transverse direction	Verdict	
1	No visible damage	No visible damage		
2	No visible damage	No visible damage	Pass	
3	No visible damage	No visible damage		

Record the damage caused for each test path if any damage is observed

0.18 m/s

a) deterioration in the flatness of the surface;

b) damage which partially destroys the surface;

c) cuts of varying depths;

d) penetrating edges;

e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;

f) in the case of a treated or welded joint, its failure.



Issue Date:	2023-11-01	Intertek Report No.
Test Items, Method and	d Results:	

Test Item:	Scratch resistance		
Test Method:	With reference to ISO 1518-1:2019		
Conditioning:	Condition the test specimens at $(23 \pm 2)^{\circ}$ C and (50 ± 5) % relative humidity for at least 16h		
Test Condition:			
Scratch stylus:		Hemispherical hard-metal tip of of diameter (0.50±0.01)mm	
Test speed:		(35±5) mm/s	

Test Result:

Direction	Test Load(N)	Appearance
Horizontal	20	Visible scratch on the surface, but no penetration to the substrate.
Vertical	20	Visible scratch on the surface, but no penetration to the substrate.

Note:

1. Observation magnification is 4X.

Test photos:



After test (Horizontal)



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After test (Vertical)



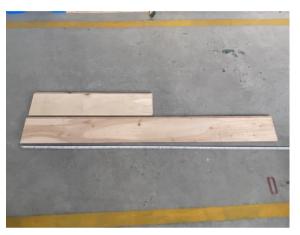
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Appendix A: Sample Received Photo



Front view(Test surface)



Back view

Revision:

NO.	Date	Changes
230822002SHF-010	2023-11-01	First issue